



Original Research Article

A clinico-epidemiological study on various patterns of facial dermatoses in adolescents attending a rural tertiary centre: A cross-sectional study

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ABSTRACT

Background: Adolescence is a critical phase of transition with a myriad of hormonal changes occurring in the body to which the skin reacts in various ways. Since adolescents constitute one fifth of the Indian population, dermatological disorders have an impact on their health-related quality of life, especially when it occurs on face leading to considerable physical and psychological morbidity.

Objectives: 1. To study the prevalence of various facial dermatoses among adolescents (10-19 years). 2. To study the clinical and epidemiological determinants of facial dermatoses among adolescent patients.

Materials and Methods: A total of 550 adolescents in the age group of 10-19 years presenting with facial dermatoses to the outpatient department of Dermatology, Adichunchunagiri Institute of Medical Sciences, B.G. Nagara, meeting the defined inclusion and exclusion criteria were enrolled in this observational cross-sectional study after taking an informed consent from the guardian (for patients <18 years) and approval of institutional ethical committee. A detailed history and thorough clinical examination was recorded in a structured proforma. The diagnosis was based on detailed history and thorough clinical examination, and relevant investigations were done when needed.

Results: The prevalence of adolescent facial dermatoses in the study was 7.3%. The mean age of sample population was 15.79 ± 2.6 years. There was a female preponderance in the study (M:F=1:1.4). Infections and eczema showed association with lower middle class. Acne vulgaris (34.8%) was the most common dermatoses followed by infections (15.3%) and eczema (12.9%).

Interpretation and Conclusion: Infections and eczema were common in lower middle class of socioeconomic status. Acne vulgaris was the most common dermatoses followed by infections and eczema.

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1. Introduction

Adolescence is a critical phase of transition with a myriad of hormonal changes occurring in the body to which skin reacts in various ways. They are affected by various dermatological diseases as a result of the hormonal changes and increased exposure to the external environment. They experience difficulties associated with the transition from a structured family setting to the uncertainties of adult world.

The WHO defines adolescence as the period ranging between 10 and 19 years of age. Dermatological complaints

are among the common causes for out patient visits in this age group. Adolescent self-esteem is easily threatened when a highly visible skin disorder becomes the focus for unwelcome peer attention. Since adolescents constitute one fifth of the Indian population, dermatological disorders have an impact on their health-related quality of life, especially when it occurs on face leading to considerable physical and psychological morbidity.

Although there is a considerable prevalence of adolescent facial diseases, the existence of only few studies on this subject makes the planning of health actions difficult. The importance of the current study lies in the need for an epidemiological survey to assess the prevalence of

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facial skin diseases in adolescents in developing countries to help implement preventive measures to decrease their prevalence.

2. Objectives

1. To study the prevalence of various facial dermatoses among adolescents (10-19 years).
2. To study the clinical and epidemiological determinants of facial dermatoses among adolescent patients.

3. Materials and Methods

A total of 550 adolescents in the age group of 10-19 years presenting with facial dermatoses to the outpatient department of Dermatology, Adichunchunagiri Institute of Medical Sciences, B.G. Nagara meeting the defined inclusion and exclusion criteria were enrolled in this observational cross-sectional study after taking an informed consent from the guardian (for patients <18 yrs) and approval of institutional ethical committee. A detailed history and thorough clinical examination was recorded in a structured proforma. The diagnosis was based on detailed history and thorough clinical examination, and relevant investigations were done when needed.

3.1. Study place

This study was conducted in the Department of Dermatology, Adichunchunagiri Institute of Medical Sciences Hospital and Research Centre, B.G. Nagara on an OPD basis.

3.2. Study duration

The duration of study was 18 months (1st January 2018 – 30th June 2019: 12 months for data collection and 6 months for data analysis and compilation)

3.3. Study design

Cross-sectional observational study

3.4. Sample size

All patients meeting the below mentioned inclusion and exclusion criteria attending the OPD within the study period were included in the study.

3.5. Inclusion criteria

1. Adolescent patients between the age group of 10-19 years with facial dermatoses attending the Out Patient Department of Dermatology.
2. Adolescent patients above 18 years of age who were willing to participate in the study.(Self consent)
3. Parents/Guardians who gave an informed consent (for adolescent patients less than 18 Years) for enrolling

their child in the study.

3.6. Exclusion criteria

1. Adolescent patients above 18 years who were not willing to participate in the study.
2. Patients who were below 10 years and above 19 years.
3. Parents/Guardians who were not giving an informed consent (for adolescent patients less than 18 years) for enrolling their child in the study.

3.7. Procedure of study

All patients from 10 years to 19 years, satisfying the above mentioned inclusion and exclusion criteria were recruited in the study. Approval was obtained from the Institutional Ethical Committee and an informed consent was taken from the patients or their parents (for adolescent patients less than 18 years) included in the study.

After informed written consent, a detailed clinical history as per pretested and structured questionnaire including age, sex, presenting skin lesions, its onset, duration, progression, aggravating and relieving factors, past medical history, personal history followed by elaborate general and systemic examination was recorded in the standard proforma.

A detailed dermatological examination of each patient was done with emphasis on morphology, pattern and distribution of skin lesions on the face.

The diagnosis was based on detailed history and thorough clinical examination, and relevant laboratory investigations were done when needed.

3.8. Analysis

The data collected was entered into a specially designed Case Record Form and was presented in the form of percentage, mean and standard deviation. It was then subjected to statistical analysis and expressed in percentages and proportions.

4. Results

The observational study was conducted among 550 patients belonging to adolescent age group (10–19 years) with facial dermatoses. They constituted 7.3% of the total OPD attendance and 18.1% of the total adolescents attending the OPD during the study. The prevalence of facial dermatoses in adolescent population was 7.3.

The mean age of the sample population was 15.79 ± 2.6 years.

Out of the 550 adolescents with facial dermatoses, 346 (62.9%) were females and 204 (37.1%) were males. An overall female preponderance was seen with male to female ratio being 1:1.4.

The following were the observations from the present study:

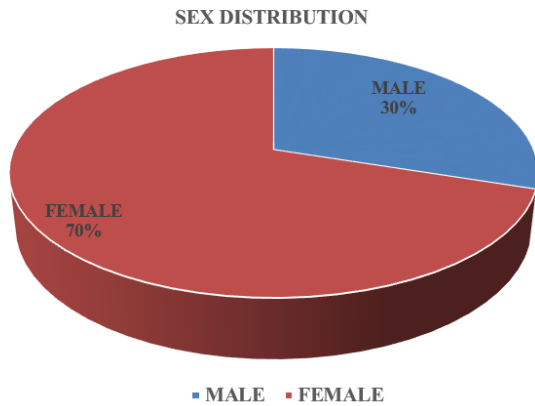


Fig. 1: Gender distribution in the study population

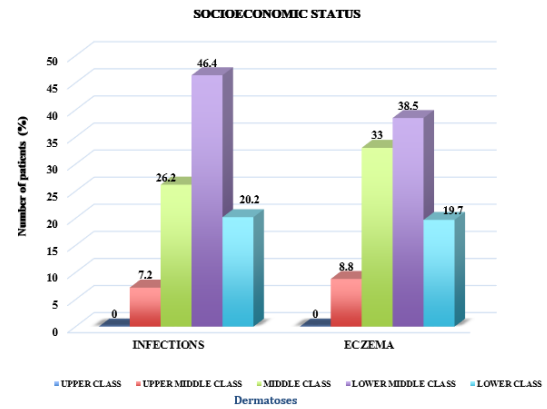


Fig. 2: Distribution of common dermatoses based on socioeconomic status

In the present study, infections, eczema, acne vulgaris and steroid induced facies showed association with socioeconomic status.

1. Infections were found to be most common in lower middle class (46.4%) and middle class (26.2%) of socio-economic status. Among infections, bacterial infections were equally distributed among middle class (36.4%) and lower middle class (36.4%), followed by 27.2% in the lower class of socio-economic status. Fungal infections were most common in lower middle class (60.9%) followed by lower class (21.7%), middle class (15.2%) and upper class (2.2%) of socioeconomic status. Viral infections were the most common in middle class (40.7%) followed by lower middle class (26%), upper middle class (18.5%) and lower class (14.8%).
2. Eczema were common in the lower middle class (38.5%) and middle class (33%). Among eczemas, seborrheic dermatitis was distributed equally among middle class (33.3%) and lower middle class (33.3%), followed by lower class (30%). Pityriasis alba was the commonest in lower middle class (47.9%) followed by lower class (39.1%). Irritant contact dermatitis was the commonest in middle class (66.7%) followed by lower middle class (33.3%). In perioral dermatitis, 66.7% cases belonged to lower middle class and 33.3% cases belonged to upper middle class.

The most common type of dermatoses found in our study were appendageal disorders, constituting a total of 44.5% of the total study population, followed by infections (15.3%), eczema(12.9%), pigmentary disorders (8.7%), miscellaneous disorders (4.9%), polymorphic light eruption(3.7%), steroid induced facies (3.6%), nevus (2.4%), erythromelanosis follicularis faciei et colli (2%), vascular disorders (1.5%) and papulosquamous disorders (0.5%).

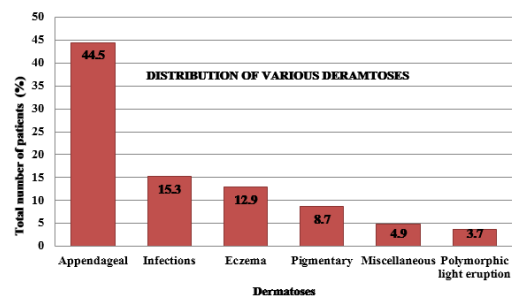


Fig. 3: Distribution of various facial dermatoses in the study population

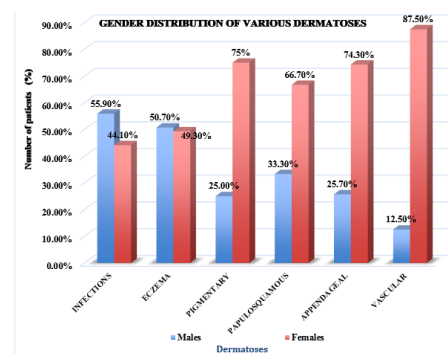


Fig. 4: Distribution of various facial dermatoses based on their gender

Among 11 cases of bacterial infections, impetigo was the most common, seen in 8 (72.7%) patients followed by cellulitis in 3 (27.3%) patients.

Of the 46 cases of fungal infections, tinea faciei was seen in 26(56.5%) patients and pityriasis versicolor in 20(43.5%) patients.

Among the viral infections, verruca plana was the most common (20;74.1%) followed by molluscum contagiosum (7;25.9%).

Table 1: Relation of pattern of facial dermatoses with gender

Dermatoses	Total number %	Males No (%)	Females No (%)
1). INFECTION	84 (15.3%)	47(55.9%)	37 (44.1%)
Bacterial			
• Impetigo	8 (1.5%)	4 (50%)	4 (50%)
• Cellulitis	3 (0.5%)	1 (33.3%)	2 (66.7%)
Total	11 (2%)	5 (45.5%)	6 (55%)
Fungal			
• Tinea faciei	26 (4.8%)	12 (46.2%)	14 (53.8%)
• Pityriasis versicolor	20 (3.6%)	14 (70%)	6 (30%)
Total	46 (8.4%)	26 (56.5%)	20 (43.5%)
Viral			
• Verruca plana	20 (3.6%)	15 (75%)	5 (25%)
• Molluscum contagiosum	7 (1.3%)	1 (14.3%)	6 (85.7%)
Total	27 (4.9%)	16 (59.3%)	11 (40.7%)
2). ECZEMA			
• Irritant contact dermatitis	15 (2.7%)	7 (46.7%)	8 (53.3%)
• Seborrheic dermatitis	30 (5.5%)	9 (30%)	21 (70%)
• Pityriasis alba	23 (4.2%)	19 (82.6%)	2 (6.7%)
• Perioral dermatitis	3 (0.5%)	1 (33.3%)	2 (66.7%)
Total	71 (12.9%)	36 (50.7%)	35 (49.3%)
3). PIGMENTARY DISORDERS			
• Vitiligo	8 (1.4%)	2 (25%)	6 (75%)
• Freckles	10 (1.8%)	2(20%)	6 (80%)
• Lentigens	10 (1.8%)	4 (40%)	6 (60%)
• Post inflammatory hyperpigmentation	20 (3.7%)	4 (20%)	16 (80%)
Total	48 (8.7%)	12 (25%)	36 (75%)
4). PAPULOSQUAMOUS DISORDERS			
• Pityriasis rosea	3(0.5%)	1(33.3%)	2 (66.7%)
Total	3(0.5%)	1(33.3%)	2 (66.7%)

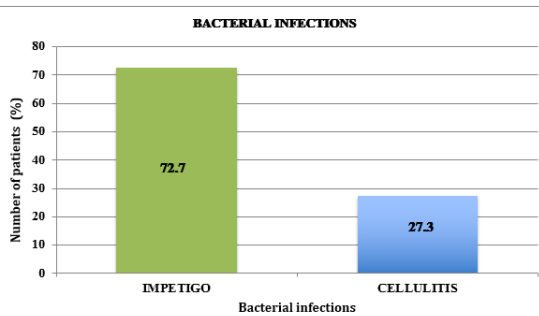


Fig. 5: Distribution of patients according to their diagnosis of bacterial infections

Eczema constituted 12.9 % of the total population. Among these, seborrhoeic dermatitis (30;42.3%) was the most common followed by pityriasis alba (23;32.4%), irritant contact dermatitis (15;21.1%) and perioral dermatitis (3;4.2%).

Pigmentary dermatoses constituted 8.7% of the study population. Among these, post inflammatory hyperpigmentation (20;41.7%) was the most common followed by freckles (10;20.8%), lentigen (10;20.8%) and vitiligo

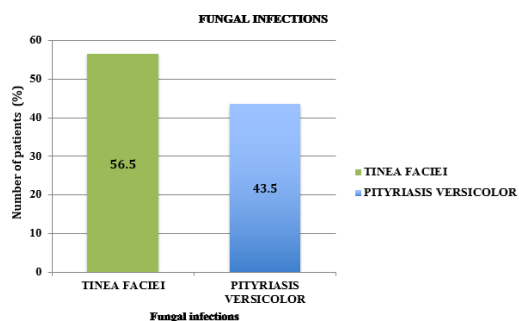


Fig. 6: Tinea faciei

Table 2: Relation of pattern of facial dermatoses with gender

Dermatoses	Total number (%)	Males No (%)	Females No (%)
5). APPENDAGEAL DISORDERS			
• Acne vulgaris	191 (34.8%)	49 (25.7%)	142 (74.3%)
Grade 1	85 (15.5%)	22 (25.9%)	142 (74.3%)
Grade 2	60 (10.9%)	11 (18.3%)	49 (81.7%)
Grade 3	132 (5.8%)	12 (37.5%)	20 (62.5%)
Grade 4	14 (2.6%)	4 (28.6%)	10 (71.4%)
• Post acne scars	26 (4.7%)	10 (38.5%)	16 (61.5%)
• Trichostasis spinulosa	14 (2.5%)	4 (28.6%)	10 (71.4%)
• Hirsutism	14 (2.5%)	0	14 (100%)
Total	245 (44.5%)	63 (25.7%)	182 (74.3%)
6). VASULAR			
• Rosacea	3 (0.6%)	1 (33.3%)	2 (66.7%)
• Pyogenic granuloma	5 (0.9%)	0	5 (100%)
Total	8 (1.5%)	1 (12.5%)	7 (87.5%)
7). NEVUS			
• Nevus sebaceous	2 (0.4%)	0	2 (100%)
• Linear epidermal verrucous nevus	2 (0.4%)	0	2 (100%)
• Nevus of Ota	4 (0.7%)	1 (25%)	3 (75%)
• Congenital Melanocytic Nevus	5 (0.9%)	1 (20%)	4 (80%)
Total	13 (2.4%)	2 (15.4%)	11 (78.6%)
8). DISORDER OF KERATINISATION			
• Keratosis pilaris (Erythromelanosis follicularis faciei et colli)	11 (2%)	4 (36.4%)	7 (63.6%)
Total	11 (2%)	4 (36.4%)	7 (63.6%)
9). IDIOPATIC PHOTODERMATOSES			
• Polymorphic light eruption	20 (3.6%)	14 (70%)	6 (30%)
Total	20 (3.6%)	14 (70%)	6 (30%)
10). STEROID INDUCED FACIES			
Total	20 (3.6%)	7 (35%)	13 (65%)
11). MISCELLANEOUS			
• Keloid	9 (1.6%)	2 (22.2%)	7 (77.8%)
• Hypertrophic scar	8 (1.4%)	2 (25%)	6 (75%)
• Morphea (en coupe de sabre)	2 (0.4%)	2 (100%)	0
• Dermatoses papulosa nigra	6 (1.1%)	4 (66.7%)	2 (33.3%)
• Adenoma sebaceum	2 (0.4%)	1 (50%)	1 (50%)
Total	27 (4.8%)	11c (40.7%)	16 (59.3%)

Table 1 Continued

**Fig. 7:** Distribution of patients according to their diagnosis of fungal infections

(8;16.7%).

Appendageal disorders constituted 44.5% of the total study. Of the appendageal disorders, acne vulgaris was the most common constituting 78% (191 cases), post acne scars 10.6% (26 cases), trichostasis spinulosa 5.7% (14 cases) and hirsutism 5.7% (14 cases).

Of the cases of acne, grade 1 (85;44.5%) was the most common followed by grade 2 (60;31.4%), grade 3 (32;16.8%) and grade 4 (14;7.3%).

Vascular causes of facial dermatoses in adolescents (8 cases) constituted 1.5% of the total study population. Of this, 5 cases of pyogenic granuloma constituted 62.5% and 3 cases of rosacea constituted 37.5% of the vascular causes.

Nevi constituted 2.4% of the study population. The most common type of nevi was congenital melanocytic nevi (5;38.4%), followed by nevus of ota (4;30.8%), nevus sebaceous (2;15.4%) and linear verrucous epidermal nevus



Fig. 8: Wart

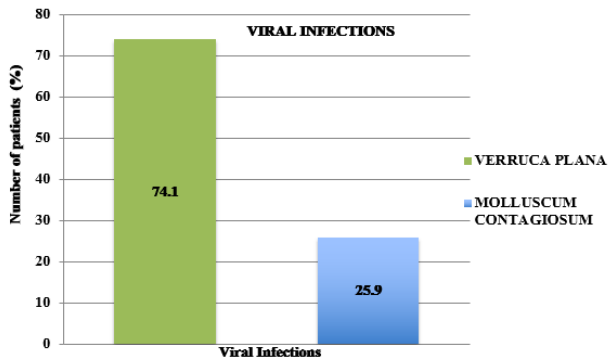


Fig. 9: Distribution of patients based on their diagnosis of viral infections

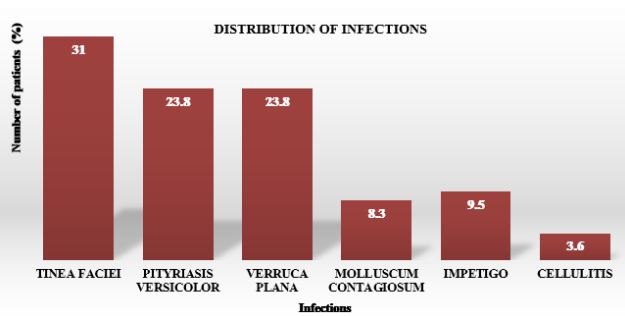


Fig. 10: Distribution of various patterns of infection in the study population

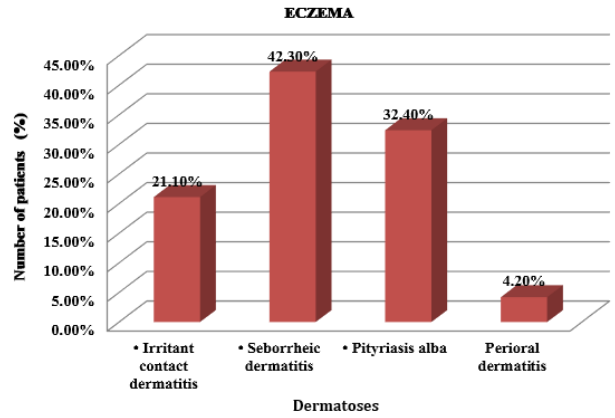


Fig. 11: Distribution of eczema in the study population.



Fig. 12: Freckles

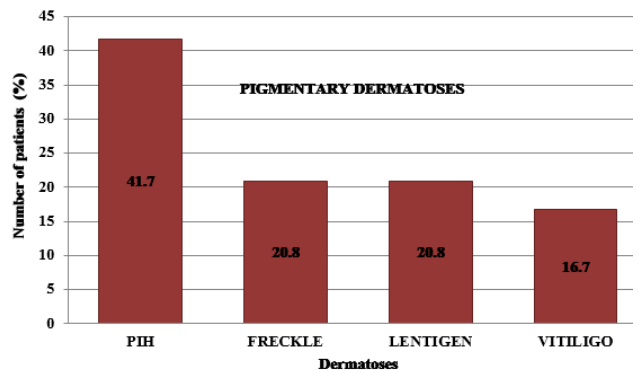


Fig. 13: Distribution of various patterns of pigmentary disorders

(2;15.4%).

The only keratinisation disorder of face in adolescents observed in our study was keratosis pilaris of face (erythromelanosis follicularis faciei et colli) and constituted 2% (11 cases) of the study sample.

The miscellaneous group in the study were 6.9% of the total population and it included cases of keloid (9;33.3%), hypertrophic scar (8;29.6%), morphea- en coupe de sabre (2;7.4%), dermatoses papulosa nigra (6;22.3%) and adenoma sebaceum (2;7.4%).

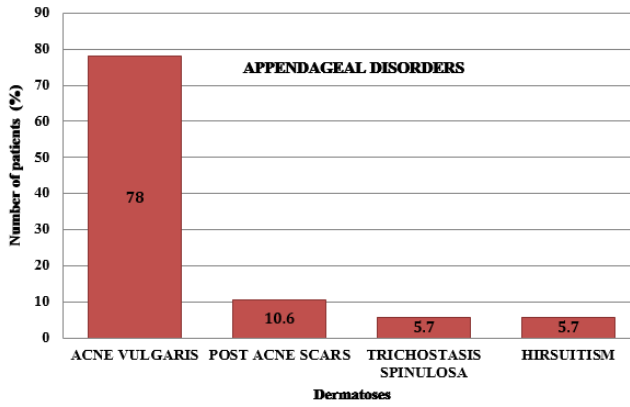


Fig. 14: Distribution of appendageal disorders in the study population



Fig. 15: Acne vulgaris

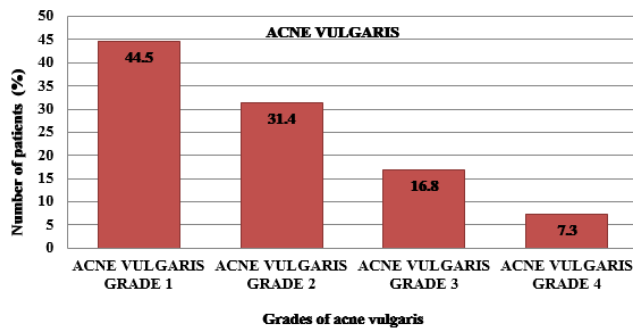


Fig. 16: Distribution of various grades of acne vulgaris

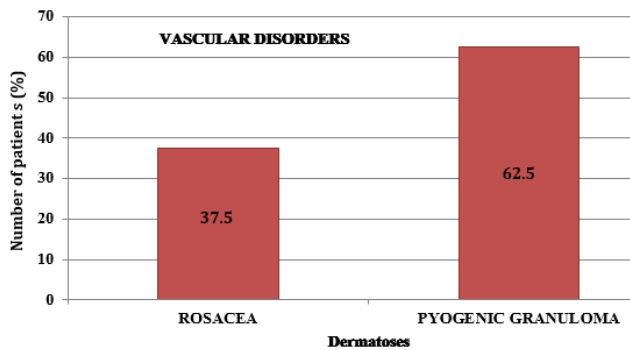


Fig. 17: Distribution of vascular disorders in the study population

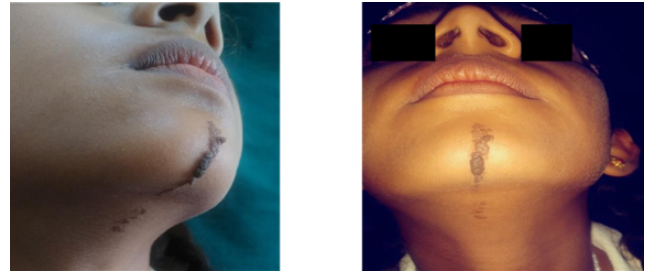


Fig. 18: Linear verrucous epidermal nevi

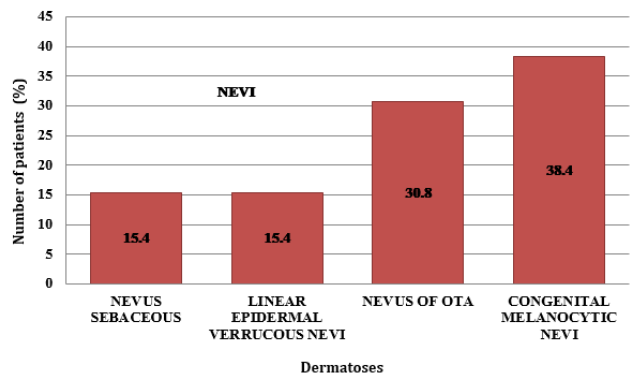


Fig. 19: Distribution of various patterns of nevi in the study population

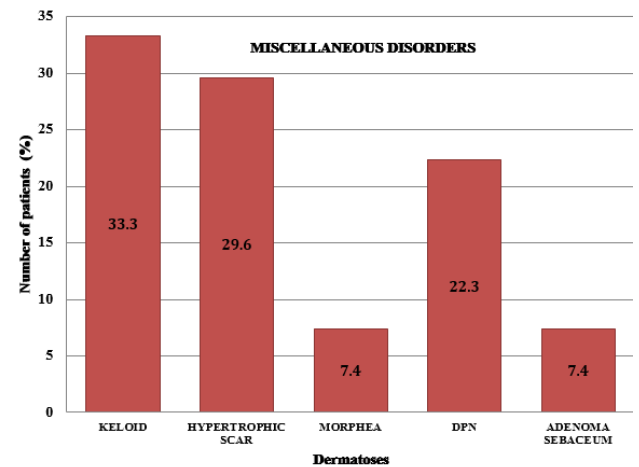


Fig. 20: Distribution of various miscellaneous disorders in the study population

5. Discussion

Skin disorders are fairly common among adolescent age group (10–19 years).¹ They are affected by various dermatological diseases as a result of the hormonal changes and increased exposure to the external environment. They experience difficulties associated with the transition from a structured family setting to the uncertainties of the adult world. The impact on quality of life can be enormous during this psychologically vulnerable period of adolescence. These physiological changes that occur in the skin during puberty and adolescence have several effects, and this may also be a reason for seeking medical advice in many cases.² There were only a single comparative study by Radhamani et al. on facial dermatoses in adolescent population.³

5.1. Prevalance

In our study, the prevalence of facial dermatoses in adolescent population was 7.3. They constituted 18.1% of the adolescents attending the OPD during the study period. Since there was paucity of similar studies, we couldn't compare our study results.

5.2. Mean age of population

Mean age of patients in our study was 15.79 years which was similar to the study done by Radhamani et al. (16.22 years).³

5.3. Sex distribution

In the present study, an over all female preponderance was observed with male to female ratio being 1:1.4. Our study results were similar to the study done by Radhamani et al. who also noticed a female preponderance (1:2.3).

This observation could be attributed to females being more conscious about their appearance and thus seeking medical care earlier.

5.4. Socioeconomic status

In the present study, infections and eczemas were found to have an association with the socio-economic status as per modified B.G. Prasad socioeconomic classification.⁴ Infections were found to be most common in lower middle (46.4%) and middle class (26.2%) of socio-economic status. Eczemas were found to be most common in lower middle (38.5%) and middle class (33%) of socio-economic status.

However the results of our study could not be compared to any other study due to paucity of similar studies.

The increased incidence of the infections and eczemas in lower socioeconomic status could be attributed to poor personal hygiene, overcrowding and lack of health awareness in the community. The increased incidence of

steroid induced facies among these patients, could be due to lack of awareness and easy over the counter availability of topical corticosteroids.

5.5. Pattern of dermatoses

In our study, majority of the patients presented with acne vulgaris (34.8%) followed by infections (15.3%) and eczema (12.9%). Our study results were in concordance with study by Radhamani et al. where the most common dermatoses was acne vulgaris (20%) followed by folliculitis (16%) and pityriasis versicolor (15%).³

5.6. Acne vulgaris

1. In the present study, acne vulgaris was the most common dermatoses constituting 34.8% of the study population.
2. Of the 191 patients with acne vulgaris, 49 (25.7%) were males and 142 (74.3%) were females. Thus, acne vulgaris showed a female preponderance in our study (M:F ratio = 1:3). This was in concordance with studies by Radhamani et al. (M:F ratio = 1:2.3), Henshaw EB et al. (M:F ratio = 1:1.3), Reddy VS et al. (M:F ratio = 1:1.01) and Kawshar T et al. (M:F ratio = 1:1.5).^{1,5-7} In contrary, studies by Pandey P et al. (1.04:1) and Hmar et al. (1:1.1) reported a male preponderance.^{2,8}
3. In the present study, majority of patients had grade 1 acne – 85 (44.5%) cases followed by grade 2 – 60 (31.4%) cases, grade 3- 32 (16.8%) cases and grade 4- 14 (7.3%) cases. This was in concordance with study done by Smithard A et al. (very mild acne -22%, mild acne- 17%, moderate to severe acne- 11%).⁹ In contrary, study done by Krowchuk et al. observed moderate acne in 41%, severe acne in 28% and very severe in 3 % of patients.¹⁰
4. The spurt of acne vulgaris at adolescence could be attributed to the role of androgens, which target the sebaceous glands. At puberty, the spurt of hormones especially of androgens, stimulate sebaceous glands to secrete sebum, playing a major role in pathogenesis of acne vulgaris during this phase of adolescence.

5.7. Infections

1. The second most common dermatoses in our study were infections which was observed in 15.3% of the study population.
2. In the current study, among the infections, fungal infections were most common (8.4%), followed by viral (4.9%) and bacterial (2%) infections. However Radhamani et al. observed that bacterial infections were the most common (16%) followed by fungal (15%) and viral (6%) infections.³
3. Out of the 46 patients having fungal infections, tinea faciei was the most common (26 cases- 56.5%)

followed by pityriasis versicolor (20 cases- 43.5%). However Radhamani et al. in their study observed pityriasis versicolor (15%) to be the most common fungal infection.³Fungal infections showed a male preponderance in comparison to females (M:F=1.3:1).

4. Out of the 27 patients having viral infections, verruca plana was the most common (20 cases-74.1%) followed by molluscum contagiosum (7 cases-25.9%). This was similar to study done by Radhamani et al, who found viral warts (6%) to be the most common viral infection. Viral infections showed a male preponderance in comparison to females (M:F=1.5:1).³
5. In the current study, out of the 11 patients having bacterial infections, impetigo was the most common (72.7%) followed by cellulitis (27.3%). In contrary, Radhamani et al. found folliculitis (16%) as the most common bacterial infection followed by furuncle (9%). Bacterial infections showed a female preponderance in comparison to males (M:F=1:1.2).³
6. Lack of health awareness, ignorance regarding diseases and failure to understand the importance of cleanliness, poor personal hygiene, poverty and overcrowding, increased exposure and enhanced outdoor activity would have been the important factors that may have contributed to higher prevalence of infections in our study.

5.8. Eczema

1. In the present study, seborrhoeic dermatitis (5.5%) was the most common followed by pityriasis alba (4.2%), irritant contact dermatitis (2.7%) and perioral dermatitis (0.5%). In contrary Radhamani et al. observed contact dermatitis as the most common eczema (14%) in their study.³
2. Of the 71 cases of eczema, 36 (50.7%) were males and 35 (49.3%) were females. Thus in our study, eczema showed a slight male preponderance (M:F=1.03:1)
3. The incidence of irritant contact dermatitis in our study was 2.7% (15 cases)
4. Perioral dermatitis constituted 0.5% of the population. Of the 3 cases, 1(33.3%) case was a male and 2 (66.7%) cases were females, showing female preponderance (M:F=1:2).

5.9. Pigmentary disorders

1. In the current study, pigmentary disorders constituted 8.7% of the study. Among the pigmentary disorders, postinflammatory hyperpigmentation was most common (3.75%), followed by freckles (1.8%), lentigens (1.8%) and vitiligo (1.4%). However, due to paucity of similar studies, our study results couldn't be compared with any other study.

2. An over all female preponderance was seen in comparison to males. (M:F=1:3).
3. This could be a consequence of postinflammatory hyperpigmentation to either acne lesions, inflammatory lesions or infective lesions, all of which were the most commonly seen dermatoses in this study.

5.10. Nevi

1. Nevi constituted 2.4% of the total dermatoses in our study. Congenital melanocytic nevi (0.9%) was the most common nevi followed by nevus of ota (0.7%), nevus sebaceous (0.4%) and linear epidermal verrucous nevi (0.4%). The study by Radhamani et al. found epidermal nevi as the most common nevi (8%).³ Nevi showed a female preponderance in the present study(M:F =1:5.5).

5.11. Keloid and hypertrophic scar

1. Keloid constituted 0.8% and hypertrophic scar 0.8% of the of the study population.
2. Both keloids (M:F =1:4) and hypertrophic scars (M:F=1:3) showed female preponderance.

5.12. Disorder of keratinisation

1. Keratosis pilaris of face i.e. erythromelanosis follicularis faciei et colli was the only keratinization disorder observed with a prevalence of 2% in our study.
2. Of the 11 cases of keratosis pilaris on face, 4 (36.4%) cases were males and 7 (63.6%) cases were females, thus showing a female preponderance (M:F=1:1.8).

5.13. Papulosquamous disorders

1. In the present study, papulosquamous disorders were observed in 0.5% of the total population, and all cases (4 cases) reported were of pityriasis rosea.
2. Of the 3 cases of pityriasis rosea, 1 (33.3%) case was male and 2 (66.7%)cases were females, showing a female preponderance (M:F=1:2)
3. However the results of our study could not be compared to any other study due to paucity of similar studies

5.14. Idiopathic photodermatoses

1. In the current study, polymorphic light eruption constituted 3.7% of the total dermatoses.
2. In our study, out of the 20 cases of polymorphic light eruption, 14 (70%) cases were males and 6(30%) cases were females, thus showing a male preponderance.

6. Conclusion

The prevalence of adolescent facial dermatoses in the study population was 7.3%. Infections and eczema were observed most commonly in lower middle class of socioeconomic status. Acne vulgaris was the most common dermatoses observed followed by infections and eczema.

Facial dermatoses are a major cause of emotional, personal, behavioral and social difficulties in adolescents. They even contribute to psychosocial problems including depression and low self-esteem especially in patients with acne vulgaris. Thus, it is prudent to recognize, intervene and treat facial dermatoses at the earliest to prevent the psychological sequelae. Infections were commonly seen in our study, and this could be attributed to poverty, overcrowding and poor hygiene. Proper health education to patients and families regarding the mode of spread of infections and the importance of personal hygiene is the need of the hour. Knowledge about the pattern of adolescent facial dermatoses will help us in disease control, implementation of adequate preventive strategies and in creating public awareness regarding the cause and course of various facial dermatoses.

7. Limitations

As this was an OPD-based study, the number of study population was limited and this may or may not accurately reflect the community data.

8. Source of Funding

None.

9. Conflicts of interest

None.

References

1. World Health Organization, SEAR office UNICEF press release. Available from: www.unicef.
2. Pandey P, Suresh M, Dubey V, Pandey P. A cross-sectional study on quality of life among acne vulgaris patients. *Int J Dermatol* . 2016;4(11):4800–5.

3. Radhamani M, Rahim JA. Skin disorders of the face in adolescent population. *Int J Sci Res*. 2015;5:1793–4.
4. Pandey VK, Aggarwal P, Kakkar R. Modified BG Prasad Socio-economic Classification, Update - 2019. *Indian J Comm Health*. 2019;31:123–5.
5. Krowchuk DP, Stancin T, Keskinen R, Walker R, Bass J, Anglin TM, et al. The Psychosocial Effects of Acne on Adolescents. *Pediatr Dermatol* . 1991;8(4):332–3.
6. Anoop T, Reddy V, Ajayakumar S, Bindurani S, Rajiv S, Bifi J, et al. Study of clinical spectrum of pediatric dermatoses in patients attending a Tertiary Care Center in North Kerala. *Indian J Paediatr Dermatol* . 2016;17(4):267–72.
7. Kawshar T, Rajesh J. Sociodemographic factors and their association to prevalence of skin diseases among adolescents. *Our Dermatol Online*. 2013;4(3):281–6.
8. Hmar V, Singh N, Devi TB, Bachaspatimayum R, Subba D, Verma K, et al. Pattern of dermatoses among adolescents attending a tertiary care center in Northeast India. *Indian J Paediatr Dermatol* . 2017;18(3):214–6.
9. Smithard A, Glazebrook C, Williams HC. Acne prevalence, knowledge about acne and psychological morbidity in mid-adolescence: a community-based study. *Br J Dermatol* . 2001;145(2):274–9.
10. Henshaw E, Olasode O, Ogedegbe E, Etuk I. Dermatologic conditions in teenage adolescents in Nigeria. *Adolescent Health Med Ther* . 2014;5:79–87.

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